

*Folsom (G. Jr.)*  
From the Eighth Annual Report of the State Board of Health of Massachusetts.

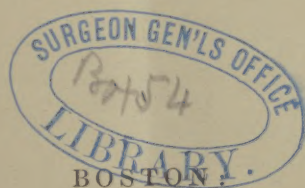
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REGISTRATION

OF

DEATHS AND OF DISEASES.

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BY CHARLES F. FOLSOM, M.D.  
SECRETARY OF THE BOARD.



ALBERT J. WRIGHT, STATE PRINTER,  
79 MILK STREET, CORNER FEDERAL STREET.

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## REGISTRATION OF DEATHS AND OF DISEASES.

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One of the leading sanitarians of the United States recently said, "No method has yet been found, or at least acted upon, whereby the actual death-rate can be positively ascertained for the United States, or, so far as I know, for any single State."\*

It has seemed desirable to ascertain how we stand in reference to so sweeping a criticism, and the result of the inquiry has been that we can only say that we are a little better than some of our neighbors.

The first of the following series of questions was sent to the medical correspondents of the Board in October; and the second, a little later, to the clerks of the cities and towns throughout the State:—

I. Is the registration of deaths and causes of death complete and satisfactory in your town? If not, please suggest any deficiencies of which you are aware, whether *all* deaths are returned to the undertakers, whether the undertakers themselves return them promptly and accurately to the clerks, whether causes of death are reported by the physicians in all cases, etc., etc.?

II. Will you be kind enough to inform us whether the registration of deaths and causes of death is complete and satisfactory in your town? If not, please suggest any deficiencies of which you are aware, whether *all* deaths are returned to the undertakers, whether the undertakers themselves return them promptly and accurately to the clerks, in what proportion of cases the *causes of death* are reported by physicians, etc., etc.?

\* Report on the Death-rate of each sex in Michigan, and a comparison with Dr. Farr's Life Tables of Healthy Districts in England. By Henry B. Baker, M. D., Secretary of the State Board of Health and Registrar of Vital Statistics of Michigan. 1876.

## INFORMATION FROM PHYSICIANS.

One hundred and ninety-six physicians replied to our circulars. Of these, 44 reported that the registration is satisfactory, 118 reported that it is not satisfactory, and 34 replied so indefinitely that it was not possible to say from their returns whether the law is complied with or competent to meet all requirements, if obeyed, or not.

In regard to the registration of the full number of deaths, without regard to their causes, 54 have reason to think that this is fully done, 45 reply that it is not done, and 97 answer indefinitely; that is, they do not answer that particular question, they have no suggestions, they do not know, or the reply is so worded as not to convey a definite statement.

The very large number of "indefinite" answers as to the registration of the full number of deaths, may be explained on the ground that it is a question on which comparatively few have an opportunity of getting exact information.

Of course, it is not expected that absolutely "satisfactory" registration can be got in all cases. The word, therefore, in tabulating the returns, has been used to express as satisfactory a registration as we can expect with the present degree of human imperfection and until we have some system or law regulating the practice of medicine. For instance, the following two replies (10 and 26, p. 7,) were classed as "satisfactory." Strictly speaking, the first indicates a condition of things which is very far from "satisfactory"; and the importance of some legal restrictions upon irregular and incompetent physicians is great. In tabulating the returns, however, it was thought best to confine attention to those defects which were referred to in the circular sent out.

It would be very easy, however, to have a registration of physicians in our State, as has been done in Europe and in some of the cities of our own country, notably Brooklyn and New York. In such case, any person not possessing a diploma from some responsible medical college should be excluded from the privilege of signing any medical certificate involving responsibility.

A certain portion of the community will always prefer to consult "healing mediums," etc., and probably could not be



prevented from so doing by any law; but it is of importance to the State that every death should be as faithfully and intelligently certified to as is possible, and the public should see to it that this is done in every case.

10. In this town, as in nearly every town in the Commonwealth, we have some irregular and incompetent practitioners of medicine, whose diagnoses would be of doubtful accuracy and not to be relied on for scientific conclusions. Yet the registration of deaths and causes of death is as complete and satisfactory in this town as in most towns probably.

26. The registration of deaths is apparently quite complete. The *cause* of death is not always correctly given, owing oftentimes to an impossibility of obtaining an autopsy. Probably the returns to the undertakers are as complete as they could be made by any legislation.

Nothing would be gained by quoting affirmative replies at length; enough of the others are given to illustrate all the deficiencies in the present methods.

Our correspondents generally testify that the town clerks are ready to heartily coöperate in the work of good registration, and that, where there is any deficiency on their part, it is from following established custom or from inherent difficulties.

### *Replies of Medical Correspondents.*

1. The registration of deaths in this town is quite complete and satisfactory, with perhaps the exception that the *cause of death* is reported in too general terms, a matter that can be easily remedied by physicians making the report, which is not done in all cases now. The deaths are returned by the undertaker to the clerk once a year; this, perhaps, is not as often as it should be done, but such matters, I think, cannot be attended to conveniently with that promptness in country places as in cities.

2. I presume that our town authorities are not remiss in reporting all cases of death, but are certainly not over-particular in the minutiae of the subject,—in fact, have not in a single case referred to me for such particulars.

5. Undoubtedly the number of deaths is given the clerk with sufficient accuracy, but the causes of death in many cases must be quite imaginary, as the physicians are not consulted about this.

7. The cause of death is invariably returned on the undertaker's certificate and is given by the friends of the deceased. I am never asked to make out a physician's certificate.

9. In a few instances, decedents are taken to other places for burial without the town clerk's license [and probably escape registration].

17. I think all deaths are returned, but I think that the value of registration is essentially impaired by wrong causes being reported, usually through ignorance; there is evidently no intentional misrepresentation. Perhaps the physician's signature accompanies about two per cent. of all certificates.

18. It has been the custom for the undertaker to take around, *once or twice a year*, to physicians, their blanks, filled out in other respects, and get the attending physician to certify. If not disposed, they have filled them out themselves.

19. The registration of deaths and their causes in this town is very *incomplete* and *unsatisfactory*, and I am aware *all* the deaths are not recorded. The custom has been for the town clerk to go through the town once a year and "collect the births and deaths"—while during the year many births and deaths have occurred in families who have removed from town; consequently no record can be made of them. There being no particular undertaker, I think no one ever makes any return to the clerk, and I think the cause of death is never reported by any of our physicians. I have long been aware of the unsatisfactory manner and incompleteness of the registration of deaths and causes of death, not only in this town, but in many other towns.

24. Since I received your circular I have had an interview with the town clerk. He says the registration is all a farce. I inquired how he procured his information, and he said it was supposed he would send to every house, but I think he takes the neighborhood reports.

24½. The undertaker usually puts down the *cause* from hearsay oftener than he ascertains from the attending physician the real cause.

25. I think the registration of deaths is generally made quite promptly, but the undertakers are not careful enough to inquire of the physicians as to the causes of death, and one often sees names given which are altogether outside of medical nomenclature. The physicians are equally careless in the same thing, and one would often be in doubt to know what the true cause of death was, unless they had attended the cases themselves, as our yearly death-list will testify. The law does not oblige a physician to give the cause, unless applied to for it, and then he is liable to a fine of ten dollars if he does not make the return in fifteen days. I think an improvement can be made by obliging the physicians to fill blanks in a scientific manner and return them to the clerk without having the undertaker as a medium.

28. I would suggest as an amendment to the statutes on this subject, that no interment be allowed to take place, under a severe penalty, in any town or city, without the certificate of the clerk of the town or city in which the death occurred (or the deceased resided) *having been first obtained*. There seems to me to be no necessity for any exceptions.

34. In a full practice in this town for more than *forty-four years* I have never been asked for the causes of death, nor have I ever so reported. We do not have, in the country towns, "undertakers," and of course no returns of such persons have been made to clerks.



35. There are a considerable number of cases of death among the foreign population who die without any regular medical attendance. I have supposed they were reported by the sexton as *deaths*, but the *cause* of death would often be random *guessing* on the part of relatives.

36. I have never been called upon to give the causes of deaths, and therefore cannot say whether they are accurate or not.

37. The registration of deaths, and the causes of death, in this town, has been very imperfect; and, as far as sanitary purposes are concerned, worse than useless. Last year I made a formal protest to our selectmen, the registration was so incorrect, especially as to the *causes* of death, more than one-tenth being recorded incorrectly. The undertaker has been in the habit of asking the friends the "cause," and once in two or three months reporting to the town clerk. Of course such statistics are worse than useless. Statistics, to be of any value, should be themselves correct. This year I have been asked in a few cases to certify as to the cause of death; for several years past, not once. There ought to be a law compelling the sexton to require of the physician in charge to certify to the cause of every death, *before* interment, with a penalty attached for non-performance. No respectable physician would ever object to doing this. The law now is, I believe, that the physician shall give a certificate when required to do so; but no one is compelled to make the request. No body should be removed from town, or interred, without a proper certificate of the cause of death from the attending physician.

39. Many times the physician never sees the return at all. The statement of some member of the family is all the authority. I don't think, during my practice, that fifty per cent. of the deaths were returned in a proper manner.

43. The registration of deaths in our town is done after a poor fashion. Near the end of the year, or rather, near the time to make the annual returns, the town clerk himself, or some one for him, goes around and "picks up" all the deaths he or she can hear of; the cause of death is learned from friends or neighbors. I do not, nor does any other physician, make any returns to the clerk, in our town.

44. The registration of deaths here is not satisfactory. There is one undertaker, and he is negligent in this matter, frequently letting the half-filled blanks remain on his hands and accumulate till the end of the year, then getting the physicians to certify to the causes of death from memory, which in many cases involves inaccuracy. I do not know but all cases may be returned, but I do know, that by reason of the slack way in which it is attended to, there is much guesswork in the final report when it is made up.

47. Before burial in our cemeteries, it is of course necessary to secure a permit from the city authorities, and so far the registration is complete. Whatever return there is of the *cause* of death comes from the undertakers, and from them alone. I do not remember to have been asked the cause of death in more than two or three instances for many years. The undertakers prepare the statement from reports of friends. The city clerk informs me that there is much delay in the sending in of these reports, generally requiring his

personal attention to obtain them, and then not very satisfactory in every case.

48. I can unhesitatingly say that the registration of the *causes* of deaths is *anything* but satisfactory. I think there is no doubt but that all deaths are recorded.

49. The registration of deaths in this city is complete, in so far that the total number is correctly returned. It is not satisfactory, in that there is some confusion in the important item, "cause of death." It has been customary for the undertaker to fill up the blanks, generally without consultation with the attending physician, relying upon friends for his information. In cases which he considered doubtful, the physician is sometimes called upon for his opinion, and to fill the blank. In the cases in which the cause of death is given to the satisfaction of the undertaker by friends of the deceased, he inserts the name of the physician, though he has not seen the certificate. I have to-day examined the certificates returned to the clerk's office for a couple of months past, perhaps fifty in number. The name of the attending physician has been inserted in all, but in only two or three instances by himself.

50. The registration of deaths and causes of death is, I think, very unsatisfactory, so far as our city is concerned. I think, however, that but few deaths escape registration. So far as "causes of death" are concerned, the record is of comparatively little value. The undertakers almost never take the certificate of return to the physician who attended the deceased for his signature of cause of death, but put down as cause of death whatever the family say the doctor said was the cause. I got the returns of the last year from the city clerk to look through, to find out about some of these things I have mentioned. We have a yearly mortality of about two hundred or more at present. I think there were obtained, last year, three certificates of death with signatures of physicians, out of two hundred.

A case of "chronic rheumatism" was cirrhotic kidney; a case of "ulceration of the bowels" was cancer of rectum; a case of "heart-disease" was septicæmia or pyæmia, following amputation for old disease of knee-joint; a case of "tumor" was aneurism of the aorta. "Infancy" is down for twelve deaths, etc., etc.

I have been trying to do something to make our registration better, and the city clerk has seen the undertakers, and they agree to take their certificates of return to the physicians for their signatures. I brought up the subject in our local society, but I did not succeed in getting the members interested apparently; nobody, with one, perhaps two exceptions, seemed to care anything about it.

51. If the law provided that no burial could take place without the possession by the proper authority, of a certificate of the cause of death from the attending physician, it would seem that some of the faulty and unsatisfactory "causes of death" might be avoided.

55. As far as I can learn, both from my own experience and from inquiry of the clerk of the town, I think it (registration) has been done in an imperfect manner, and necessarily, from the fact that the returns have been made once a year.



56. So far as my experience and knowledge of registration of deaths extend, it is far from satisfactory; and this, I believe, is mainly due to neglect on the part of the undertakers in complying with the requirements of the law. Certificates of death are generally sent in some weeks and sometimes months after burial. I always attend immediately to the filling out of certificates on receiving them. I have now upon my desk two that have been there several weeks awaiting the call of the undertaker.

57. I am not called upon in half my cases to give the certificate. I understand that undertakers get them filled by the family, and I know that many certificates are wholly false as to cause of death. Almost any cough is reported either "consumption" or "lung fever," and so in other diseases.

61. The method of registration for this town is as follows: Two persons dig the graves and drive the hearses. These persons, at the end of the year, go about town and visit every house in which they learn of a death or birth having taken place during the year. The name, age, disease of which the person died, etc., are put down, and all are returned to the town clerk. The record is, therefore, made up wholly of the statements of the families in which the person died. Physicians make no return whatever. In a few instances, families, if uncertain of the causes of death, refer the sexton to the physician. More commonly they are better satisfied to give their own opinions than those of the physician, if they do not happen to coincide. Hence the record cannot be very accurate. In looking over the records for various purposes, I have been very much dissatisfied at what I found in many instances assigned as the cause of death in cases that I had treated.

66. The undertaker fills out the blanks relating to causes of death, according to the dictation of the family. When the disease is obscure or peculiar, the physician is consulted to give the name of the disease, but this is often loosely done. I am not able to report as to the promptness of returns to the city clerk.

67. So far as I can learn, all the deaths in this city are reported except *still-births*, of which I find no record. The city clerk informs me that the undertakers are generally prompt in their returns. Physicians do not make out certificates of the causes of death at all, that I can learn of, though on half a dozen returns rendered this year, I find the physician has filled out the cause-of-death blank (on the undertaker's return), and signed his name in the space left for the name of the attending physician. In 60 of this year's returns the name of the physician is given, but his signature is not attached. In 134 of this year's returns the name of the physician is omitted. The cause of death in many cases is obscurely or incorrectly given, as "weakness," "cut with a knife," "accidental," "inward spasm," "cold," "troubled in the brain," "dropsy," "debility," "teething," etc. One return has the honest record of "don't know," which indeed causes many deaths. I would suggest that it be required for the physician to fill out and sign, in every case, the cause-of-death blank on the undertaker's return before it is handed in to the clerk.

71. Causes of death are never, or rarely, reported by the physicians of this town. The clerk makes up his report upon hearsay testimony, never asking information of the physician in charge of the case. I have known "puer-

peral fever" returned as "typhoid," or, in another case, as "lung fever." So far as my observation extends, in this and many other country towns in Western Massachusetts, very little dependence can be placed upon the statistics of causes of deaths as returned by town clerks. Undertakers never require any certificate from attending physicians. I would suggest that it be made a penal offence for an interment to occur without the undertaker having a certificate from some respectable physician, and that a further penalty be added if the undertaker fails to return this certificate to the town clerk.

74. As I have been town clerk for the last twenty years, I can speak from personal observation, and, when I say that the death-returns are incomplete and unsatisfactory, I only say what I know to be the truth. In fact, in some forty deaths returned the past year, I did not find five certificates from physicians, notwithstanding I had been careful to furnish them with a full supply of blanks for the purpose. As a matter of course, the great object in view is, to a great extent, lost. The number of deaths is promptly returned according to an understanding with the sexton, and, if physicians would only meet the requirements of law, our returns would become reliable. The only remedy which suggests itself to me at this moment, is, that a certificate from the clerk to the sexton, that all the requirements of law had been complied with, should be furnished *previous* to burial, and that the sexton shall be *prohibited* from making burials without such certificate, under penalty. Some efficient remedy should be applied soon in order to render the returns valuable.

75. I think the registration of deaths in this city has improved since I referred to it in a communication to you a year or two since. I have taken occasion to urge upon the undertakers the importance of obtaining the written statement of physicians in relation to the causes of death. Formerly it was customary, and it is practised, I fear, to some extent now, for the undertakers to take the statement of the friends of the deceased in regard to the cause of death, without consulting the attending physician. Most of the undertakers, however, submit the proper blanks to the attending physicians to be filled by them. It often happens, particularly among the poorer classes, who are not able to employ, or do not choose to employ, a physician through the course of a disease, that a physician is called, perhaps once, to prescribe for a patient, and, after that, his services are not requested, and the patient, after the lapse of an indefinite period of time, one, two, or more weeks, dies. When the return is made out by the undertaker, he may apply to the physician for the nature of the disease, but it is often quite impossible for the physician to state accurately the immediate and sometimes even the remote cause of death. In consequence of the great diversity of skill among those who have the title of "Doctor," in this land of medical liberty or license, the nomenclature employed in reporting deaths is sometimes very inaccurate and indefinite. I note the following causes of death in the city clerk's register for the present year: "Teething," "worm fever," "pharalithic rheumatism," "canker," "jaundice," "pelvis malformation." There are, however, fewer of such indefinite terms employed, than might be expected. I have reason to believe that all deaths are reported to the undertakers, and by them promptly returned to the city clerk.

76. I am never called upon in any way to report upon the causes of death, —at least have not been in late years.

78½. Our undertaker is a man of thirty years' experience; in early life a carpenter by trade; does not belong to any temperance society; he often has the difficult duty of deciding the *cause* of death from viewing the *cadaver*, and he makes his returns in conformity with his own inquest.

81. Could the public mind be educated up to the point of compulsory autopsies in all cases of death, such autopsies to be performed by duly qualified, legally appointed medical officers, would not both the science of medicine and the art of healing make large advances in our midst during the next half century? What accomplished diagnosticians would arise as one result of such a measure! But this is a Utopian idea; a thing to dream of, but never to be practically realized in this country. I may say, in conclusion, that the registration of *deaths* is "complete and satisfactory," at least very much so in my town. But the registration of the "*causes of death*" is not satisfactory; that is, much less satisfactory.

83. I have practised in this town five years, and have *never* been called upon for certificates of death during that time. The reports of the deaths in the town appear yearly in the clerk's report, but his information is derived from other sources than through physicians.

84. During the past two years, of all deaths returned, not one in three was signed by any physician.

88. The undertakers make prompt returns, but the physicians are not prompt with the *cause*, and the town clerk is obliged to hunt up the cause before the end of the year. In regard to still-born children, if any undertaker is called, he makes a return; if, however, the friends bury the child, no return is made.

89. Cases have occurred in the past, where the body has been taken just across the line into Lawrence, and no return made to the clerk here.

91. All deaths are supposed to be returned; but the causes of deaths, *as returned*, are frequently very unsatisfactory; about one-half are judged to be misnamed.

93. The clerk said, further, that he found it very difficult, in many cases, to obtain the facts and information necessary for him to make the records on the town books complete. Some would be attended by physicians out of town; other families would move out of town soon after a death, without making or leaving any record of the death or cause of death for the clerk. Transient persons, shop hands, etc., would sicken and die suddenly, their friends would come and take their remains to some distant place for interment, without making any returns of the death to the clerk.

94. I had a talk with the town clerk this morning, and he informs me that returns of deaths are not made promptly by the undertakers to him, and that only myself and one other physician make out certificates of causes of death. There are four practising medical men here, and no one but myself appears to be in the practice of making out a certificate immediately after the occurrence of a death. The principal undertaker seldom calls for a certificate, and, the doctors only being required by law to give a certificate



when it is called for, the whole matter is neglected in a majority of the deaths. The present town clerk appears to have tried to get his returns in promptly, but the undertakers and the medical attendants have been careless and remiss.

95. Empirics, often grossly ignorant, report causes in a large proportion of deaths; these reports are received on a par with those of the educated physician.

96. To my mind the registration of deaths and causes of death in this city is not at all satisfactory or complete, when viewed from a medical stand-point. In fact, as far as statistics or the use of such registration in matters affecting the public health are concerned, the matter is a mere farce. I have no means of knowing whether *all* deaths are returned to the undertakers or not. Upon inquiry of the undertakers, I find that they make their return to the city clerk once a month, and that, as a rule, they obtain their knowledge of causes of death from inquiring of the family. Certificates of the causes of death are not given in this city by any physician, they never being requested to do so.

98. In regard to the registration of the *causes* of deaths, there is room and good reason for making a radical change. In a majority of instances, the undertaker makes his return, giving the cause of death and the name of the attending physician from information obtained from the parents or relatives of the deceased. I have in mind an instance which has occurred within ten days, where the cause of death was reported as "pneumonia," and I know, from personal examination, that the party died from "phthisis." It seems to me that in order to obtain a correct registration as to causes of death, and have a report that would be reliable on which to base a statistical report, that it should be made obligatory on the part of the physician in attendance at the time of death of the patient, to sign, in his own handwriting, the undertaker's return, as to the cause of death. Some way should be devised to prevent the undertakers from making their returns, without first obtaining their information as to causes of death from the physician in attendance. As the returns are now made, there is no responsibility on the part of the physician; it is left entirely in the hands of irresponsible parties, and, of course, the attending physician is the only one qualified to make a correct return.

99. I think the attending physician is very seldom interrogated in relation to the matter, and do not know that I ever was. A nearer approximation (I think) would be made to the truth, if every physician were obliged to furnish a certificate to the undertaker or to the clerk of the town, for a record of each death that may occur in his practice, with a penalty, should an undertaker officiate without such certificate.

100. The town clerk informs me that the registration of deaths and the causes of death is *incomplete*; that at least one corpse a month, on the average, is removed from town without any return being made, either of the death itself or of the causes of it.

101. I called upon our undertaker. He informs me that all deaths are returned to him, and he returns them to the clerk. It is not his custom to



call upon physicians in all cases for the cause of death, but takes the statement of the family unless they refer him to the physician. I have no suggestions to offer, but it seems to me the statistics would be much more valuable, if, in every instance, the cause of death was certified by the attending physician.

103. The registration of deaths and causes thereof is satisfactory and correct, so far as I can find out, except that the undertaker or friends of deceased often neglect to present the return of death to the attending physician for his opinion of cause of death and signature, but fill it in themselves, so that omissions and mistakes are frequent. I do not think that I have signed more than half the returns of deaths which have occurred in my own practice for the last eight years.

105. I am seldom asked to fill out a blank, and know but little of the reports.

108. The town clerk's record is well kept, so far as he can be expected to keep it; yet even in the record are evidences that the neglect of the law relating to physicians' certificates occasions much looseness in the record of the causes of death. The law in relation to physicians' certificates, I am informed, has never been enforced here. The town clerk also states, that in his yearly round for obtaining the births for registration, he has occasionally heard of a death which has not been reported to him. Another irregularity has been permitted in allowing undertakers of the neighboring city of Salem and those of the adjoining towns to make their returns of deaths at which they have officiated, semi-annually.

109. I have never been asked to make a certificate of death and the cause of death for any one who has died in this town.

113. It would be an important improvement in the present law if the physician's certificate of cause of death were required *in all cases, without exception*, previous to interment, and cemetery authorities were forbidden to permit any interment except on presentation of an order or certificate from the town clerk. I cannot ascertain that any unrecorded interments have been made here the past two years; but such an occurrence is not at all impossible under existing regulations.

122. The causes of death are at present registered with commendable painstaking by our municipal officers. Only a very small percentage of deaths are registered without a statement of the cause certified to by some medical attendant. But the provisions of the law last enacted to secure a registration are not strictly observed. From the nature of the work, I think the registration of causes of death should be at least subject to the supervision of a medical officer. In our cities this could be made one of the duties of the city physician. Moreover, tables should be furnished to the recording officer and to physicians, indicating the general classification which is to be followed. I think that for the purposes sought through this registration, only a general classification should be attempted. A minute classification is likely to prove useless from the mixture of inaccurate diagnoses from ignorant practitioners, with the opinions of careful observers.

123. The town clerk employs a man to canvass the town every year to collect all the statistics and report to him at the beginning of the year.

125. The town clerk informs me that there are a few returns which are not adequately filled. I cannot control returns of deaths of cases under the care of other physicians, but I am in the habit of calling at the office of the town clerk every year before he forwards his returns, and of assisting him, as far as possible, in making them complete in my department.

131. The registration may be complete, yet I think not wholly satisfactory—the physician's certificate frequently not being called for until several months have elapsed since a death, and then the circumstances not fully in mind. To decide whether such registration is satisfactory or not, I would first know the object of any registration. If for the basis of statistical tables of causes of death, prevalent diseases, etc., I should say not; if to satisfy the public whether the death was from disease or violence, I should say yes.

133. The registration of deaths and the causes of death in this town is very incomplete; beyond the fact that the person is dead, it is of no utility at all. My impression is, that to be of any use, some uniform method should be established throughout the Commonwealth, making it the duty of the attending physician to make and return to some proper officer, within a certain time, a certificate of the death, its immediate cause, etc. As long as every case of diarrhœa in children is called "cholera infantum," and every case attended with cough "consumption," every sudden death "heart disease," what sensible man can peruse the record with confidence?

136. I see but *one* way to make the "returns of death" complete and satisfactory; viz., forbid by law, under penalty, the interment of any body in any cemetery, or transportation in any public conveyance, without a *certificate of death* signed by a physician, countersigned by the town clerk or some other responsible officer; this certificate to be retained by the person in charge of the cemetery or public conveyance, and returned to the officer issuing the same. The person issuing the certificate to be forbidden to give it unless he has in his possession a certificate of death of approved form, and signed by a physician. I have tried all other means, and am convinced that in this city no other plan as feasible will succeed. Many certificates of death have been signed by the undertakers, or not signed at all, and are returned in a lump at the end of the month. Notably is this the case with certain undertakers. The objection that has been urged against enforcing this law, or in fact any reasonable regulation, is, that it is difficult to find the doctor to sign, etc. Pass a law requiring every physician to send to the clerk or other official a certificate of the cause of death within twenty-four hours of death; the city physician or health officer to furnish a certificate, if no physician is in immediate attendance. I am glad that some investigation is being started about this matter.

137½. The same idea (of requiring certificates from physicians) would lead us to prefer that all practitioners should be compelled to have diplomas or certificates of competency before being allowed to follow their profession.

141½. The town clerk thinks some undertakers fail to get and return the required reports, so that some deaths fail of any registration whatever;

others return promptly. Generally, the causes of death are not reported by physicians, but are obtained, as best they may be, from friends' or neighbors' reports of physicians' opinions; often, of course, ill understood and improperly reported. In some cases, the attending physician's name appears as having certified the cause of death, when he has really certified nothing, and only because he was known to have attended the case. Thus my own name appeared as certifying as cause of one death, "Fall at Purgatory"!

142. Out-of-town physicians, as well as resident physicians, have never returned any deaths, nor causes of death, except when the body was to be buried away from this place. For a period of sixteen years I have never been asked nor required to sign a certificate as to the cause of death, except as above stated.

142½. I believe that the nature of the disease or the cause of death is in seventy per cent. of cases mere guesswork. These returns form in many instances the bases of theories from which sanitarians deduce the most positive conclusions.

143. For two years I have neither filled out one [death-certificate] nor even seen one. For aught that I know they may be now obsolete.

147. I have thought that our high death-rate from consumption, as shown by statistics, might perhaps be accounted for in a measure by the fact that the undertaker sometimes, in what he considers a clear case, fills out the blank.

148. The registration of deaths and causes of death here is more satisfactory now than it was a few years ago, and it is intended by the present clerk to make it complete and satisfactory. I think the deaths here have all been recorded. The criticism I make is, that probably the former clerks have sometimes listened to common report as to the cause of death, and so, many of the deaths are recorded "consumption" which are due to other causes. On examining the records for sixteen years ending with 1870, the deaths recorded number 563. Of these, 153 are recorded as caused by consumption, making 27 per cent. of the whole. Comparing this with the years 1871 to 1876, inclusive, to the present time, the deaths recorded number 187. Of these, 27 are reported as caused by consumption (14½ per cent.).

149. The returns of deaths to the undertaker, and the registration of such deaths, have never, at least since my residence here (twenty-three years) been in any degree satisfactory. Such returns, except in individual cases, have been literally valueless. The sexton will ask, either at the time of the funeral or some indefinite time later, some one of the family, What did the deceased die of? and make his return in accordance with the answer and his own ideas of the case, the result requiring an entirely new nosological system to comprehend.

150. The registration is inefficient and unsatisfactory; and principally because of the loose and indefinite way in which the physicians of the town and vicinity record their deaths, the nosology being defective and the cause often omitted as a trivial affair after all. I do not think *all* deaths get recorded, but most do. The undertakers are very prompt to ask for the certificates, but do not always readily get them.



152. I think the value of the returns is much diminished by the certificates of irregular and ignorant practitioners being received, but as such attend quite a large proportion of the sick everywhere I see no present remedy.

153. From inquiries, I judge that all deaths are returned to the undertakers, and quite promptly by them to the town clerk. The certificates are fully made out, but I find that the undertakers seldom obtain the names of the diseases and their causes from the attending physicians, and no doubt they are not unfrequently incorrectly stated. On this I would make a suggestion. The law does not oblige the attending physician to return the name and sex of the deceased, the disease and its causes, except when *requested*. My suggestion is to have the law changed so as to make it obligatory on the part of the attending physician to return the name and sex of the deceased, the name of the disease and its cause, to the town or city clerk; and on the part of the undertaker to obtain the name of the disease and its cause from the attending physician, the certificates retaining their present form.

154. I think they [deaths] are all returned to the town clerk, but I see by examination to-day, of those for 1876 to date, that the disease is not stated by the attending physician in more than one-half of the certificates.

156. I doubt if in every case of death the cause is certified by a medical man, for the reason that a certain number die every year without medical attendance, and under such circumstances that no physician could make an unconditional return without a post-mortem examination. In such cases, one can give a medical certificate to be used by parties known and supposed to be honest, with a declaration that it is based upon the representations of parents or friends. Such a document may be absolutely necessary to facilitate interment.

157. I have reason to believe that the causes of death are very indifferently reported. Physicians' certificates are not always required.

157½. The deficiencies in the first place are with the undertakers, or those having the care of the funeral, or of the body of the deceased, to ascertain the facts in regard to the cause of death. In many cases the medical attendant is not even asked for the cause of death, or not even what ailed the patient; and when the return is made up there is some cause assigned in the certificate which does or does not represent the true cause of the death, and therefore not reliable for accurate statistical information. For an example, which occurred in my own practice: A gentleman died from cancer of the bladder and prostate gland, of several years' duration; it was returned as kidney disease, or complaint. The undertaker was informed by myself of the true cause of the disease, while, as he says, the family said it was kidney disease, and he thought they ought to know best, and so he made his return as kidney disease; and I find in my examination of the register very many errors of a like kind. It is my impression, and in fact I know, that the cause of death is not very generally reported by physicians in this town unless called for; perhaps more so now than formerly, for I have been urging the undertakers to be more particular in regard to the matter of ascertaining the true cause of death, and fulfilling all the requirements of the laws of registration. Another fault is, the returns are not promptly made at the



time of death and burial. The return is often delayed for one or two months, and even longer, and has even been delayed until after the annual return has been made to the secretary of the Commonwealth. This fact came under my own observation, for the returns were handed to me by the undertaker, saying that he forgot to hand them in before, and supposed that it would make no difference, as he was in the habit of making his returns but once a year.

161. The town sexton reports all deaths to the town clerk once a year, bringing the *blank forms* to the physicians for them to fill out, guessing, as near as can be done, when, from any cause, physicians are unable to certify advisedly. My belief is, that if the sextons were required to report *every month at least*, in country towns, the business would be performed more satisfactorily and with more exactness. Copies of the statutes relating to the matter should be posted up in some conspicuous place in town,—in the post-office, for instance,—so that all parties desiring to know what is law and usage, can thus be informed.

162. The returns are hardly ever filled and given to the registrar until the close of the year, which might, in some cases, make a little jar in the correct filling of blanks. The sexton usually brings his blank to me at the close of the year to be revised and filled as to points he is unable to do himself; in some cases, the death is so far back, that I am unable to be as correct as I would like. I do not say this to find fault with the sexton, for I think him to be a very careful man; it has been the custom for years, and he has only followed the custom.

163. The causes of death are sometimes certified to by a physician, if he is handy; if not, any one considers himself competent to assign the cause. In reply to the question, "Are three out of five certified to by physicians?" he (the town clerk) said, "No, not so many."

164. When undertakers are employed, they generally obtain certificates of causes of death from the physician in charge; but there are quite a number of burials by the family, where no undertaker is called upon, and in these cases no record is returned, unless the physician makes a point of returning the case himself, which few do.

170. I think the registration, as far as the name of the person is concerned, is complete and accurate, but of the causes of death, very inaccurate and deficient. The returns are made by the undertakers to the city clerk every week, and, as far as I know, they make returns of *all* the deaths, excepting in some cases of still-birth. But the causes assigned by the undertakers, in many cases, are very inaccurate and ridiculous, and in some instances with intentional deception. It is rare for the physicians to report the causes of the deaths.

171. Deaths are returned by the undertakers to the clerks, they inserting the cause of death, and simply guessing at it. No certificate has ever been presented to me for signature or filling by undertakers.

172. While perhaps all *cases* of death may be reported by the undertakers to the clerks, the causes are provokingly inaccurate, for the reason that

physicians are not required to return the causes of death, and the undertakers make returns of what they may be able to gather from the family.

179. For many years I have been so disgusted with the manner of conducting this business, that I have lost all interest in the matter.

180. Judging from returns of deaths coming under my own observation, I should say that undertakers are careful to make returns. In looking over the returns of *causes* of death in the clerk's office, I should give my opinion that tables made from them would be of little value.

182. I do not think all deaths are reported to the clerks—certainly not promptly. They are not returned by the physicians, but by the undertaker, who reports the cause of death as received from the friends. I have corrected the returns for the town clerk, as well as I could, for the past four or five years, but, of course, was not always sure of giving the accurate cause of death in every case, except where I have been the attendant.

185. In the main, I have long regarded the returns of deaths very imperfect. For instance, there were some 40 deaths returned by the clerk last year, and on my private list of deaths, which I keep from year to year, I had recorded 60.

190. The returns are made pretty promptly every week. As to the causes of death, the returns are as unreliable as is popular rumor in general, for that is all they amount to. The cause of death *very* rarely comes direct from any physician. I wish you would suggest the best way of remedying this matter; of making these comparatively worthless records what they might be—a valuable store of facts. For we shall probably have an available mayor next year.

191. I am glad you are going to present the subject of registration. It is one which has interested me for a long time. I have resolutely tried to have the system changed here, but to no purpose, as the city government has been changed every year; and I have not been able to get the mayor interested until the end of the year, when he has been turned out for a new man.

#### INFORMATION FROM TOWN AND CITY CLERKS.

Two hundred and sixty-two clerks replied to the circulars, as follows:—

|  |     |
|--|-----|
| Registration of number of deaths satisfactory, . . . | 102 |
| “ “ “ not satisfactory, . . .                        | 43  |
| Replies indefinite, . . . . .                        | 117 |
| Registration of causes of death satisfactory, . . .  | 50  |
| “ “ “ not satisfactory, . . .                        | 113 |
| Replies indefinite, . . . . .                        | 99  |

There were 144 cities and towns from which both medical correspondents and clerks answered. In these—

|   |    |
|---|----|
| Town clerks and medical correspondents agree in . . .                                   | 70 |
| “ “ “ do not agree in   | 74 |
| “ say satisfactory, and medical correspondents say not, in . . . . .                    | 15 |
| Medical correspondents say satisfactory, and town and city clerks say not, in . . . . . | 8  |

Fifty-one of the seventy-four discrepancies in the replies are where one reports “indefinitely,” and, therefore, are not strictly at variance.

Under the first head the clerks evidently often mean that their part of the work is satisfactory, and sometimes even say that the medical correspondents might think otherwise. Again, after saying that everything is satisfactory, they often add that they get returns only once a year by going for them personally, and one calls it satisfactory when he gets physicians’ certificates only “in more than fifty per cent. of the cases”; others call the registration satisfactory, when they have not heard complaints. Some say that they have not given the subject much attention. One “cannot spare the time to give the subject that consideration which it deserves.”

One clerk states that, in his opinion, all deaths are reported, but adds that he has often wondered why it was that “consumption, cancer, and heart disease prevail here” so extensively. In this remark lies the key to the fact that prevalent diseases are reported in excess of what is due. So it is commonly, or at least often, that wasting diseases are classified as *consumption*; infantile diseases as *cholera infantum*, etc. For the same reason, during epidemics of scarlet fever and cerebro-spinal meningitis, the mortality from those diseases appears very much exaggerated. This was notably true of diphtheria in our State in 1874 and 1875.

Many of the clerks remain in office only a short time, and do not really have their attention called to the subject farther than to follow precedents. Sometimes an efficient clerk gets his registration well in hand, and the next turn of the political wheel removes him and brings in another. It is, therefore, impossible to say that the error in our returns is nearly the same from year to year.

When the registration has been satisfactory, it has usually



been due to a local board of health, or to the gratuitous labor of some interested clerk, who does the work which, by the law, belongs to some one else. One of them even says, for instance, that the clerk has about as much work in making out his return at the end of the year as if the undertakers and physicians had nothing to do with it.

By the personal efforts of the clerks, weekly returns are made of deaths and causes of death in the nineteen large towns and cities of the State; but even in some of the largest cities, there are still such imperfections in the registration that these returns are only approximate. The difficulty of fixing the responsibility for accurate registration on any one person is evidently working badly, and some of the replies to our circulars contain this statement.

It was not a part of the present plan to investigate the registration of births, and no questions bearing upon that matter were asked. Undoubtedly the liberal fee (when much travelling is not needed) stimulates the desire to get all cases. Still, some of the circulars were returned with the statement that the registration of births is even more unsatisfactory than that of deaths.

The defects pointed out in our records of vital statistics are manifestly such that they cannot be rectified in the painstaking and able elaboration of them for publication, nor explained by the high professional talent employed in editing them.

### *Replies of City and Town Clerks.*

8. The custom has been to return the deaths at the end of the year, except when the body is carried out of town for burial; then I get a return near the date of death. I very seldom get the physician's certificate with the return; the cause of death is usually named, also the name of the physician: but all in the handwriting of the undertaker, and I think it is obtained from some member of the family of the deceased. I think the disease or cause of death is in many cases guessed at, so that my return to the department is not accurate as to the prevailing disease.

10. I find that about six-sevenths of the returns are made by the undertakers; the other one-seventh seem to have been made by friends of the deceased, rather than by physicians. The undertakers may have received their information from physicians for aught I know.

15. In answer to your inquiries, I would say that our undertaker makes full returns of all deaths where he officiates, but that is not in one-half of the cases. There are undertakers who come into this town and remove the



dead and make no returns; but when I go through the town for the births, and find a death, I get the best information I can.

17. The undertaker is furnished with blanks to fill, and he gets the best information he can from the family of the deceased, when making preparations for the funeral. These certificates are returned to the town clerk for registration at the close of each year. They usually contain some kind of a statement of the causes of death, sometimes attested by a physician and sometimes not. A section of our town always go to P—— for an undertaker, and the town clerk never gets any returns except such as he can gather when canvassing for the particulars concerning births. From this section, information as to the causes of deaths is very unsatisfactory.

19. I fear that in some towns not one-half the *causes* of death are obtained.

20. In small towns like this, where there is no undertaker, we do not get all the returns, and, if the clerk goes after them, it is very doubtful if he gets the cause of death correct.

24. A great many causes of death are returned as "heart disease," and nothing more. That disease assumes so many forms I have thought whether to medical men that was satisfactory.

27. I have never had reason to suspect any inaccuracy except in one instance, returned as "inflammation of stomach," where the death was probably caused by an attempt at abortion.

29. It has become unfashionable to comply with the requisitions of the statutes, and, if any officer points out this neglect of duty, he is answered that other town clerks are not so particular, and that no one lives up to the laws.

31. The law is in no case complied with, either as regards the undertaker, physician, or by the families themselves. At the close of the year, the births and deaths of the year past are collected by going from house to house throughout the town, making the result very unsatisfactory and expensive.

36. I think all the deaths substantially are reported to the undertakers, and most of these return the *deaths* promptly and accurately, but not the *causes* of death. In the case of private cemeteries, some of the undertakers make no attempt to obtain certificates. One undertaker in this city has always been in arrears, more than all other undertakers together. I showed him this circular, and he has since brought in all the certificates that were wanting, to date. In some cases no physician is employed, and we have no "city physician" to investigate the cause of death. Incompetent persons, quacks of both sexes, midwives, professional or non-professional, are employed in some cases, and their certificates are incorrect or worthless. Some of the regular physicians give a great deal of unnecessary trouble to the undertakers, who are often obliged to go many times before they can get a certificate. If the attention of physicians could be called to this matter, and if undertakers could know that they were liable to removal for not making full returns, most of the present difficulties would be removed.

38. There are not more than one-eighth of the causes of death certified to by physicians.

40. Returns are sometimes made with the cause of death omitted, or inserted by the person making the return, and too often stated in a vague or general way. Unless a permit for removal of a body is required, undertakers do not make their returns, as a rule, until the close of the year.

43. The certificates of physicians as to causes of death are rarely received at this office, and the record is dependent on the undertaker's certificate.

54. We have not any undertaker, but we usually employ those from the city of New Bedford, and they do not take the pains to make any returns in one-half the cases or more, and I seldom get the cause of death reported by a physician.

68. I should say that all the facts I report in about fifty per cent. of the deaths, I obtain as best I can.

74. During the present year, I have furnished the physicians and undertakers with all the proper blanks, together with pamphlet of instructions, but up to the present time not a single death has been returned to this office.

76. I think our registration of deaths is about as complete as you could have it. Whether we get the *causes* of deaths as accurate as possible, is a matter the physicians know best about. I don't think we do, in each and every case.

79. It has been my practice for quite a number of years past, when clerk, to visit or send some competent person to visit the families where births and deaths have occurred, and to ascertain the facts and particulars before making returns to Boston.

88. Physicians do not report any cases at all.

90. I have been clerk of the town for six years in succession, and have employed a man to gather all the information in regard to births and deaths called for in the blanks sent to me for that purpose. I have never received any information from physicians or undertakers.

93. If I were to make any suggestion, it would be that the people, especially in the small towns like ours, be in some way reminded by the state authorities of *their* duty in the matter of returning deaths, and other vital statistics, to the town clerk. As before stated, it now seems to remain with the clerk, in our town at least, to collect the facts concerning such deaths as may come to his knowledge, and it is only by keeping a close watch that he can be at all confident of accuracy.

94. The physicians' reports do not come so easily. The reason, I think, is, that the friends do not know that such a thing is required, so come unprepared, then of course forget to see the "Medicus," and the matter slips over. We have but one physician here. I see him occasionally, and fill up cases that he knows about, but many people employ doctors from the neighboring villages, and so I sometimes lose one.

95. I also am quite sure that the undertaker obtains his information in regard to the cause of death, in a majority of cases, from some member of the family, rather than from the physician. The reports of causes of deaths are incomplete.

97. Never until this year, has the returning of deaths been made in a proper manner; and I determined that I would have it properly done if the law was good for anything. I accordingly sent to or saw every physician and undertaker in the city and told them what I wanted to do, and that I must have their coöperation and assistance. I have had it, and must say that I am very well satisfied. It is only in the cases of those who are too poor to employ medical services, that the cause of death is not reported.

108. I have been in the custom of getting the cause of death indirectly from the undertakers through the superintendent of burials, who is a physician, and can give the technical name, which we would fail to get if we relied on the undertaker's return, especially in cases where there was no physician in attendance. The undertakers complain that they have difficulty in obtaining the cause of death from the physician in attendance, in time to make the return to the city clerk within the time required by law. The registration in this city has been very complete and satisfactory, especially for the last three or four years.

115. The causes of death, as returned by the undertakers, are not always correct, as they do not obtain the certificate of the attending physician. I therefore get the doctor's statement myself, and often find that it does not agree with the undertaker's return, which is made up from statements by the family of the deceased.

119. The causes of deaths are not generally made known, except in an incomplete and unsatisfactory way.

122. I have experienced some difficulty in obtaining the physicians' certificates as to the cause, etc.; that is to say, they delay the matter, and will not fill them out until solicited to do so by some one. I have always obtained or received them after a time. If they were required to fill them out *immediately*, the returns would be more accurate, and it would certainly assist matters.

123. I have physicians' reports of causes of death in 60 per cent. of the number of deaths.

126. There being no resident physician in active practice here, the people are obliged to employ physicians from other towns, rendering it impracticable, in many cases, to obtain the physician's certificate of the cause of death. Somewhat less than one-half of the deaths are so certified. All deaths are promptly returned by the undertaker, with a statement in each case of the cause of death, as correctly as it can be ascertained from the friends of the deceased.

127. In this town I think all the deaths are registered—the facts being returned to the clerk by the undertakers, each week, they are surer to be right than if returned monthly; this I know by experience; for, when



returned monthly, as required by the statutes, it would often happen that some would be delayed for two or three months, and I found more difficulty in having them corrected. No certificates of the cause of death are ever given in this town by the physicians; hence the cause of death, as returned to me, is very imperfect, in my opinion.

129. The cause of death is not returned in more than one-fourth the cases, and I have been obliged to ascertain it and, in many instances, to fill the returns myself. I think there should be some method by which the returns of deaths may be made more complete.

131. The only difficulty that I have experienced from the undertaker (for it is usually the same person from year to year) is, that he will insist upon keeping his returns until the end of the year, and making them in a body.

132. In answer to your circular of the 1st inst., I have to say that since my connection with this office I have found it almost impossible to get the complete returns of deaths from the undertaker. I have taken it upon myself to obtain them, and believe that, for the past nine months, the registration has been complete, except in a comparatively few cases, where physicians have neglected to make returns of "causes of death," when frequent applications have been made for them. How to remedy this neglect on the part of physicians and undertakers in small towns, is, in my opinion, a difficult matter to solve, unless, perhaps, the whole duty of obtaining all the facts relating to a death be assigned to one person.

135. In answer to your inquiries, I will state my impressions. I have kept the records since the year 1870, and have endeavored to have them correct. The rules and regulations of the board of health, in this city, are so well observed that every death is recorded, and the cause of death, as returned, is usually correct. If I have any doubt, I immediately send a blank to the physician, and leave the filling of the record until I have it returned.

136. To my knowledge, physicians' certificates of causes of deaths have never been called for or reported by them, with, perhaps, one or two exceptions, occurring some years ago.

139. I consider the registration very nearly complete in this town; the only deficiency being now and then a body removed from town for burial elsewhere, without application for a permit. I think there may be twelve such cases in a year; the number registered being from two to three hundred. The causes of death are given in all cases. In this town the returns are made to the clerk by the sexton who has charge of the burial, so that we are sure of returns of every interment. The sextons make these returns on the proper blanks, once in six months.

142. It is quite too common that the cause is not certified by a physician, especially in cases where no physician is in attendance; and I have heard the sexton say frequently that the doctors were rather indifferent as to the performance of the duty.

146. I think the present system of registration in case of deaths works well in this town of about nine hundred inhabitants. Our undertaker is

very careful to make *full* returns of *all* deaths; in nearly every instance the cause of death is reported and recorded. I presume more difficulty would be experienced in securing full returns in larger towns, especially among the foreign element.

147. Strangers sometimes die and are removed to a distance for burial. Such are liable to be overlooked, as they rarely call on the town clerk for a license to remove the body, probably through ignorance that the law requires it. It might be well to prohibit railroad employ  s from passing such over the road without having a license pasted on the top of the box.

158. In towns of over ten thousand inhabitants, it would seem that undertakers should make their returns at once, as soon as they are employed, and not be allowed a grace of seven days. The physician should make his certificate and leave it with the family or persons having care of the deceased at once after death, and not have fifteen days of grace. If the physician attends to his duty, then the undertaker has most of the information required; and it would be only a moment's work to fill up the necessary return complete, and the town clerk, with limited means for information, would not be obliged to supply all deficiencies, which is almost impossible in a town so large as this.

We have two large cemeteries here, and the smaller towns send during the year a great many bodies to be buried here. In such case, we have to be without any "permit to remove" or a physician's original certificate, and have to take the word of the undertaker, who fills the blank according to what he may have remembered being told or heard. In many cases, corrections have been made at my own expense, but I have not been and am not able to give my whole attention to this particular branch of my duties. In most of these out-of-town cases, the undertaker waits ten days, and oftener two or three weeks, before making any return; the record is then, at best, very meagre, and there is no way to make a full return. Everybody has shirked the matter or been careless, and all the town clerk has to do is to supply deficiencies and give the undertaker a permit, because the cemetery corporation has allowed the burial without a permit and the undertaker has really done the best he could (?). If the railroad and express companies would not receive a body unless there is the proper certificate of removal accompanying it, and if the cemeteries would not allow a body to be buried without a "permit to bury," I think the difficulty would be overcome. This might not be easy to carry out in small towns at first, but in large towns of ten thousand inhabitants and over, there would be no trouble after a few weeks, if the physician and undertaker would make their certificates as suggested.

We rarely use the "physician's certificate," but, instead, use the one on the return blank. I have tried my best to have the first used, but have given it up. There are so many "holes" in the statute that all we can do is "the best we can." I do not know that I can suggest anything in regard to registration, but can give you information regarding the work in this town and hope that we are not behind our neighbors.

The average of time between decease and registration is about ten days. Permits to bury are granted in all our cases, but always after interment. In removal from town, our undertakers always get a "permit." We rarely use a physician's certificate-blank. In most cases, we are able to get a

physician's certificate to the return; in case there is no doctor in attendance, we do without. We rarely receive permits to remove, with bodies coming from other towns in the State, excepting, always, the large cities.

159. In a town of this size, there is not much danger that *any death* will escape registration. People seldom die here except from *old age*.

165. Causes are not reported by the physicians as they should be, but, in more than half the deaths, causes are obtained from physicians before any record is made.

168. As we are situated near the state line of Rhode Island, undertakers come from Providence, take charge of funerals and do not make any returns to me. For the last two years, since I have been town clerk, I remember of but one instance, in about twenty such cases, where they have made the returns that our law requires.

169. The deaths are not all returned by the undertakers, but the fault seems to be with physicians, who are very negligent in the performance of that duty. At least twenty-five per cent. of the deaths, in this town, are reported from other sources.

172. Probably the causes of about one-quarter of the deaths are certified to by a physician. The town is so small that the physician's certificate is not necessary, as the cause is known generally.

179. The registration of deaths in this town is all correct, so far as we can obtain returns, but the returns are not as prompt and certain as they should be. There were two or three deaths in town last year that were not reported, I have since learned, and they are not all returned in the manner the law directs.

180. In reply to your circular received a short time since, I will say that neither the undertakers nor physicians make any report whatever in regard to deaths or the causes thereof. I have, at my own expense, sent a man over the town each year since I have been town clerk, with instructions to get *all* the facts and every name of persons who have died during said year. As to the accuracy of what he is able to gather respecting the "causes of death," you can judge better than I. The friends report what they have understood the physician to say was the disease or cause of death.

182. The registration of the number of deaths is probably complete; causes, perhaps, not fully satisfactory, blanks for "returns of deaths" being seldom filled by the attendant physician, but by the acting undertaker or some individual chosen by the family of the deceased to take charge of the funeral ceremonies.

186. The cause of death gives me most trouble. When families are not able to state it, I make a point of ascertaining it from the attending physician, and do not always get it then.

195. Of the 64 deaths registered here in 1875, 46 were certified by physicians, and the proportion is probably not very different from that in past years.



196. Of all returns made, from fifty to sixty per cent. are certified by physicians.

216. The great deficiency is in regard to the causes of death; very few physicians' certificates are furnished, and the information of the undertakers, obtained from the families, is often partial and inaccurate.

219. Nearly all the returns of the fact of death are promptly reported. There are some cases omitted where a sexton from out of town is employed, and in them I endeavor to supply the deficiency, as far as possible, when looking up the births.

225. I think the registration is quite complete, and that the deaths are very fully registered. The causes of deaths are not nearly so satisfactory, the undertaker getting the information from the family, and, I think, quite rarely from the physician. I remedy this as much as possible by taking them to the physician myself at the end of the year and getting him to revise them. I send you a few samples of causes of death, by which you will see the necessity for revision. If sextons were obliged, in all cases where there is an attending physician, to get the information from them, it would improve the character of the returns.

230. The undertaker has generally left a blank at the time of the interment, which, in some cases, has been retained to nearly the close of the year, and I have been obliged to hunt them up myself. Of thirteen returned to me the present year, six were without the cause of death certified by any physician.

237. About half of the deaths are returned. The remainder are obtained by the clerk as he collects the births. Only in a few cases are the causes of death accurately and specifically given, the clerk being obliged to supplement that part of the work. Very few, if any, of the regular blanks are used, although there have always been plenty in the office here for that purpose.

242. But very few of the causes of death are returned by physicians. *None* of our leading physicians have made any returns for some years, and never did so except in a very few cases. Some eight years since, I furnished all the physicians in this city with blank certificates for them to make returns of the cause of death, and only received a limited number of them.

243. The causes of deaths are not returned generally as they should be.

244. The returns by undertakers are made promptly, and I think I get them all except in case of foreigners who remove for burial. Sometimes they are not returned. The causes of deaths returned are not perhaps always satisfactory.

245. In many cases, the causes of death are reported according to the received belief of the family and neighborhood. I get such returns as "died by the visitation of God," or "by the hand of God," quite often; and "heart disease" and "old age" constantly. When I know little or nothing about the case, I make the record according to the undertaker's return. In other cases, although I am no physician, scientific or otherwise, I exercise some little discrimination of my own.

246. I would say that for six years that I have been clerk of this town, but one death has been returned to me by the parties required by law to do so.

247. Probably three-fourths of the death-reports are accompanied by a statement of causes. I usually call upon the physicians a second time; *i. e.*, after the undertaker. In this way, I get most of them complete, but not any too accurate, I fear.

250. I cannot recall a single instance, during the nine years I have been clerk of this town, of having received a physician's certificate of cause of death; and the causes, as reported by undertakers' returns, are in many instances inaccurate and incomplete.

254. Three or four years ago, when cerebro-spinal meningitis was prevalent, I had from this class (irregular practitioners) one or two deaths returned from that disease, when I thought I knew absolutely that the cause of death was entirely different. In such case, has not the town clerk the power to alter and correct the returns? *I do.*

### HISTORY OF REGISTRATION OF DEATHS.

In considering how to avert the recurrence of the terrible plagues which visited London in the sixteenth century, the first step was to find where and under what circumstances people died, and how variously different localities were affected. For this purpose registration was organized, imperfect, it is true, but sufficient to give many important hints. Much later, when the Poor-Law Board was created, a better system of registration was adopted; but it was only in 1837 that it was carried out with all the force of an Act of Parliament, and with the coöperation of the physicians, surgeons and apothecaries promised by the presidents of their associations. The law has been improved from time to time by many amendments; and finally physicians were compelled to return certificates of death under penalty, in 1874, as was then already the law in Scotland.

To such a high degree of perfection has registration of deaths now arrived in England, that on each Tuesday a printed pamphlet of ten pages is prepared and sent over the kingdom, giving the causes of deaths, etc., with the conclusions and warnings to be drawn from them, *for the week ending the previous Saturday*, and collected from twenty-three towns, containing over eight million inhabitants. This return also contains the latest information from the large cities of the

world,—from New York and Philadelphia to Calcutta and Bombay,—and fully justifies Dr. Farr's enthusiastic remark, that "Thus observers, like watchmen on the walls, are ever on the lookout, so that they see exactly what is going on, and neither plague, cholera, nor any other great epidemic can take the nations by surprise." \* Quarterly, yearly and decennial reports are also published.

The Imperial Board of Health of Germany have taken steps to collect and publish similar returns *promptly* from all cities in the empire containing 15,000 inhabitants and over, especially with reference to getting early information in regard to epidemics.

Our registration in Massachusetts followed four years after that of England, and is so similar as to justify the inference that it was taken almost directly from it.

The law of Massachusetts regarding registration (chapter 21 of the General Statutes) is as follows, the amendments being inserted in the places where they belong:—

SECTION 1. The clerk of each city and town shall receive or obtain, and record and index, the following facts concerning the births, marriages, and deaths therein, separately, numbering and recording the same in the order in which he receives them, designating in separate columns:

In the record of births, the date of the birth, the place of birth, the name of the child (if it have any), the sex and color of the child, the names and the places of birth of the parents, the occupation of the father, the residence of the parents, and the date of the record;

In the record of marriages, the date of the marriage, the place of marriage, the name, residence, and official station of the person by whom married, the names and the places of birth of the parties, the residence of each, the age and color of each, the condition of each (whether single or widowed), the occupation, the names of the parents, and the date of the record;

In the record of deaths, the date of the death, the name of the deceased, the sex, the color, the condition (whether single, widowed, or married), the age, the residence, the occupation, the place of death, the place of birth, the names and places of birth of the parents, the disease or cause of death, the place of burial, and the date of the record.

SECTION 2. Parents shall give notice to the clerk of their city or town of the births and deaths of their children; every householder shall give like notice of every birth and death happening in his house: the eldest person next of kin shall give such notice of the death of his kindred; the keeper of a workhouse, house of correction, prison, hospital, or almshouse, except the state almshouses at Tewksbury, Bridgewater, and Monson, and the master or other commanding officer of any ship shall give like notice of every birth and death happening among the persons under his charge. Whoever neg-



lects to give such notice for the space of six months after a birth or death, shall forfeit a sum not exceeding five dollars.

SECTION 3. Any physician having attended a person during his last illness, shall—when requested within fifteen days after the decease of such person—forthwith furnish for registration a certificate of the duration of the last sickness, the disease of which the person died, and the date of his decease, as nearly as he can state the same. If any physician refuses or neglects to make such certificate, he shall forfeit and pay the sum of ten dollars to the use of the town in which he resides.

SECTION 4. Every sexton, undertaker, or other person having charge of a burial-ground, or the superintendent of burials having charge of the obsequies or funeral rites preliminary to the interment of a human body, shall forthwith obtain and return to the clerk of the city or town in which the deceased resided or the death occurred, the facts required by this chapter to be recorded by said officer, concerning the deceased, and the person making such return shall receive from his city or town the fee of ten [as amended, *twenty-five*] cents therefor.

The clerk, upon recording such facts, shall forthwith give to the person making such return, a certificate that such return has been made, which certificate such person shall deliver to the person having charge of the interment, if other than himself, before the burial when practicable, otherwise within seven days thereafter. When a burial takes place and no certificate is delivered as aforesaid, the sexton, undertaker, or other person having charge of the interment, shall forthwith give notice thereof to the clerk, under penalty of twenty dollars.

SECTION 5. The clerk of each city and town shall annually on or before the first day of February [as amended, *March*] transmit to the secretary of the Commonwealth, certified copies of the records of the births, marriages, and deaths which have occurred therein during the year ending on the last day of the preceding December.

SECTION 6. The record of the town clerk relative to any birth, marriage, or death shall be *prima facie* evidence, in legal proceedings, of the facts recorded. The certificate signed by the town clerk for the time being shall be admissible as evidence of any such record.

SECTION 7. The clerk shall receive from his city or town for obtaining, recording, indexing, and returning to the secretary of the Commonwealth, the facts in relation to a birth, twenty [as amended, *fifty*] cents; a marriage, ten [as amended, *fifteen*] cents; a death, twenty cents for each of the first twenty entries, and ten cents for each subsequent entry [as amended, *if returned as provided in sections 2, 3 and 4; if obtained by the clerk himself, the fee is thirty-five cents*], as the same shall be certified by the secretary of the Commonwealth; but a city or town containing more than ten thousand inhabitants may limit the aggregate compensation allowed to their clerk. He shall forfeit a sum not less than twenty nor more than one hundred dollars for each refusal or neglect to perform any duty required of him by this chapter.

SECTION 8. The superintendents of the state almshouses at Tewksbury, Bridgewater and Monson shall obtain, record and make return of the facts in relation to the births and deaths which occur in their respective institutions, in like manner as is required of town clerks. The clerks of said towns shall, in relation to the births and deaths of persons in said almshouses, be exempt from the duties otherwise required of them by this chapter.

SECTION 9. The secretary shall, at the expense of the Commonwealth, pre-

pare and furnish to the clerks of the several cities and towns, and to the superintendents of the state almshouses, blank books of suitable quality and size to be used as books of record under this chapter, blank books for indexes thereto, and blank forms for returns, on paper of uniform size; and shall accompany the same with such instructions and explanations as may be necessary and useful. City and town clerks shall make such distribution of blank forms of returns furnished by the secretary as he shall direct.

SECTION 10. The secretary shall cause the returns received by him for each year to be bound together in one or more volumes, with indexes thereto. He shall prepare from the returns such tabular results as will render them of practical utility, make report thereof annually to the legislature, and do all other acts necessary to carry into effect the provisions of this chapter.

SECTION 11. Any city or town containing more than ten thousand inhabitants may choose a person other than the clerk to be registrar, who shall be sworn, and to whom all the provisions of this chapter concerning clerks shall apply. The returns and notices required to be made and given to clerks shall be made and given to such registrar, under like penalties.

SECTION 12. The secretary of this Commonwealth shall prosecute, by an action of tort, in the name of the Commonwealth, for the recovery of any penalty or forfeiture imposed by this chapter.

SECTION 13. Any city or town may make rules and regulations to enforce the provisions of this chapter, or to secure a more perfect registration of births, marriages and deaths therein.

### FAULTS IN OUR LAW.

From failure to enforce this law in some cases, and in others from its inadequacy, there are many defects in our vital statistics which may be remedied. Of course, there will be some errors always. There are some cases in which it is impossible to state accurately the cause of death without an autopsy, and it cannot always be done then. The best men will make some mistakes, and charlatans will make a great many.

It is important, therefore, that in all cases of sudden death at least, and better still, in all cases, the physician's certificate should state whether there was an autopsy, as is done now in Watertown at Dr. Hosmer's suggestion. Competent physicians, too, should be registered, as in England; and reports signed by others, or where for any reason no physician was able to get sufficient information as to cause of death, should be classified as uncertified.

Errors arise, too, from want of uniformity in the practice of physicians as to certifying causes of death. For instance, of three persons dying from typhoid fever, suppose the *immediate* cause of death in one to be exhaustion, in another intes-

tinal hemorrhage, and in a third pneumonia. Here are four "causes of death" as now happens; namely, "typhoid fever," "exhaustion" (consumption the undertakers call it), "hemorrhage" and "pneumonia." They should all be certified as typhoid fever, and the other facts should be stated. Instructions relative to this and other kindred matters should be given from the central office.

The infant who was reported as having died of "canker rash, diphtheria, dysentery and consumption," and another, whose cause of death was returned as "five doctors," doubtless had good reason to die; and "delicate from birth," "infancy," "stopage," "fits," "colera fantum," "collocinphanton," "cholry fanton," "bled," "direars" (? diarrhœa), "billirm" (? delirium) fever," "artry lung bursted," "feusson (? effusion) on brane," "canker on brain" and "infermation lungs" probably convey some ideas to the persons who wrote the terms; but such returns cannot be of much use in a statistical point of view.

For sudden deaths, and where no physician has been in attendance before death, the selectmen should be required to call upon some medical man for the best certificate possible under the circumstances. Inquests will often be needed, but the question of coroners\* is too broad and important to be touched upon here, further than to say that many now in office are grossly incompetent, and that abuses are too common.

In Europe many persons die without medical care; and especially in some of the more populous places, *leichenbeschauer* and *médecins vérificateurs* (examiners) are employed by the city or by the state to learn the circumstances of death; but this is chiefly to ascertain that the death was not by foul means.

Where the town clerk rides about his circuit at the end of the year to collect the births and deaths, some must

\* One of our correspondents writes: "I submitted the suggestion concerning the appointment of coroners, or investing physicians who may be members of local board of health with the powers exercised by those officers, to one of our most prominent lawyers, who cordially approved them, and wished me to write more at large upon the subject. I will not do so, however, further than to say that in this town of 6,000 inhabitants there is no coroner, and there has been none for the last forty years; nor is there, to my knowledge, at this time, one within twenty miles. So the impediments in the way of the judicial action that circumstances sometimes demand in the name of justice are very great."



inevitably be lost by removal of families, forgetfulness, etc. Where the undertaker makes his reports only at long intervals, of course some will be overlooked.

Generally, physicians readily give certificates when asked for them, so that this evil of delay may be avoided. If, however, the family or friends of the deceased were responsible for getting the doctor's certificate and the registrar's permit, the doctors would undoubtedly take much more pains to have their part of the duty promptly done. The people would soon get accustomed to so reasonable a law, as they have already done in England, and as they have done here (in some towns) when the body is to be removed to a distance for burial, or in the case of marriage certificates. In such case there would be no reason why the undertakers should have their present fees.

To make the law fully operative, there should be a penalty for burying in any private or public cemetery without a permit, to be enforced equally upon keepers of cemeteries and individuals. Exceptionally it might be necessary, in case of contagious diseases, in scattered communities, etc., to allow the permission of the selectmen or health officer to suffice, leaving the certificate to be returned later.

Railways and public conveyances now carry bodies without permits, and such bodies are conveyed pretty much over the State, either for interment or reinterment. Of course, this should never be; in case of a contagious disease, it might involve serious danger to the public health.

For the increased duties which town clerks would have under better enforcement of the registration laws, and with more efficient regulations, the present fee for registration of deaths is, in some cases, rather small, but it need not be as large as the clerk's and the undertaker's together now amount to.

The section of the law by which "any city or town may make rules and regulations to enforce the provisions of this chapter or to secure a more perfect registration of births, marriages and deaths therein," is apparently not often acted upon; but it has been done in a few cases. The boards of health of Boston and of Brookline have done very efficient service in this regard; and one of our correspondents writes:

"The registration of deaths in Woburn is complete and satisfactory. Physicians are required to make returns of the cause of death in *every case*, before the town clerk will issue a permit to the sexton for burial."

#### IMPORTANCE OF REGISTRATION.

It is not too much to say that modern sanitary science owes its existence to the registration of deaths and the localization thereby of insanitary conditions. It has been very much advanced, too, by the careful enumeration of cases of sickness as well as of deaths, whereby epidemics and locally prevalent diseases have furnished the means of scientific study, from which general laws have been learned, and through which state medicine has become a necessity of modern life.

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#### REGISTRATION OF DISEASES.

As soon as it was recognized as a part of the duty of the State to prevent disease, something more was needed; namely, a knowledge on the part of the health officers of the approach of epidemics. Of course, this want implied the existence of health officers, whose duty it should be to take measures to stop an epidemic, and who should have the power to carry out proper measures for so doing.

This need has indeed been recognized for many years, and in many countries; but usually the laws have referred solely to the more dangerous diseases, like small-pox, cholera, yellow fever and plague, or it has become the custom to interpret them in that way.

The late Dr. George Derby suggested at one time the value of returns from the dispensary physicians and hospitals of the diseases treated,\* to be reported to the State Board of Health weekly; a method which has yielded excellent results in the army medical departments in different countries. This has indeed been done to a certain extent in England, where the medical officers of the Poor-Law Board are required to report to the health officers the cases treated by them; but it is only a partial and unsatisfactory method, because hospitals, almshouses, etc., etc., are so well protected that contagious

\* Third Report of the State Board of Health, p. 13.

diseases often get thoroughly established in a community before appearing there, and for other reasons, so that numerous petitions have been sent to the English government for a more stringent law requiring registration of all cases of contagious diseases. The position of the physicians is well represented by the following extract from the report of Dr. John Whitmore, health officer of St. Marylebone for 1875 (p. 20): "It is very certain that until the sanitary officials of the metropolis are able to obtain prompt information of every case of sickness from contagious or infectious diseases occurring in their respective parishes or districts, and are able, immediately on the receipt of such information, to adopt all necessary precautions, and impose all necessary restrictions, to prevent its spread or diffusion among the healthy, there will be no material diminution in the death-rate from diseases of this class."

The same is well expressed by another authority: "The choice must be between an abandonment of any attempt to register sickness, and a scheme which, by the aid of compulsory legislation, shall provide a registration of sickness which shall be of real use to the state and the community at large."\*

A striking illustration of the fact that registration of diseases often secures results of importance which cannot be got from mortality returns or from physicians' impressions, has been shown in Paris during the past year, where the mortality from typhoid fever was excessive, but its prevalence not unusually great. The additional interesting facts that the disease was most prevalent in the fall, when the ground-water was low, and most fatal in the spring, correspond with the results of Dr. Pinkham in his investigations with regard to diphtheria in Lynn, and given at a later page in this Report.

In 1874 the British Medical Association appointed a committee to consider the best method of accomplishing this object, and they reported, in 1876, that the families and friends of the sick should be required by law to give information of all cases. In some few places in England physicians have volunteered to report to the health officers at once their cases of contagious diseases. In Newcastle-upon-Tyne "daily

\* Sanitary Record, March 4, 1876.



notice continues to be received, from the dispensary and other sources, of infectious diseases of all kinds, when, as hitherto, examination into its probable cause is at once proceeded with, and such recommendations and steps taken as are most suited to the nature of the case and best conduce to the extinction of the disease, including the gratuitous disinfection and purification of the premises of cases and the replacing of infected articles of bedding by others."\*

### *Holland.*

In what has actually been done by the state, the Netherlands are far in advance of the rest of the world. By the law of December 4, 1872, the following regulations (among others) were made relative to contagious and infectious diseases (small-pox and varioloid, scarlet fever, measles, typhus fever, typhoid fever, cholera and diphtheria, to which dysentery was added December 3, 1874):†—

Burgomasters may remove patients from tenement houses and taverns to a hospital, if they deem it necessary, and by advice of a physician.

They may temporarily close such public houses, etc., at the public expense, when the medical inspectors deem it necessary.‡

They may cleanse and disinfect houses, cottages, and vessels, upon the order of one of the inspectors or of a practising physician.

They may, with medical authority, disinfect or destroy articles infected or suspected to be so.

They may remove filth, cleanse streets, etc., etc., in preparation for a threatened epidemic.

They may regulate, in various ways, the transportation of such sick persons, the attendance at school of children, and the discharge from the hospitals of those sent there.

Neither teachers nor scholars are allowed to enter schools, who have not been vaccinated or have not had small-pox.

In each district the authorities must furnish opportunity for free vaccination at least once in every three months.

They must provide proper places for the treatment of contagious diseases, when required by general order to do so.

They must provide dead-houses within a year after the passage of the law.

\* Report of the medical officer of health on the sanitary condition of Newcastle-upon-Tyne during the year 1875, by Henry E. Armstrong, M. R. C. S., 1876.

† If deemed necessary, other diseases may be added to this list by the authorities for the time being; but permanent additions must be made by royal statute.

‡ By the law of June, 1865, there are seven inspectors in the kingdom, of whom each has a separate district. Five of these inspectors, having large districts, have assistants.

In case of death from contagious or infectious disease, they may send the corpse at once to the dead-house.

Heads of houses, masters of vessels, etc., must report all cases of the above-mentioned diseases to the burgomaster, under penalty, within twenty-four hours.

Doctors must report all cases of cholera and small-pox to the burgomaster, under penalty, within twenty-four hours.

The houses in which there are contagious diseases must be conspicuously marked by the officials with the words "*Contagious Diseases*," and with the name of the disease.

Public announcement of epidemics in any district must be made, and weekly reports of cases and deaths from all of the above diseases, except measles, must be published by the burgomaster; from measles, only the deaths.

In case of cholera, there must be daily reports.

Public fairs and festivals may be stopped on account of the presence of an epidemic.

Medical inspectors have power to enter houses where there are contagious diseases.

The penalties for violating the various provisions of this law are fines from five to one hundred florins, and imprisonment from three days to a month.

According to Dr. Egeling, the medical inspector of South Holland, excellent results have been got by this law, and he gives a list of the persons who were fined in 1874 for violation of it.\* In many places it has been well enforced; but in the report of the department of works at Rotterdam,† the ratio of deaths reported to the cases reported indicates that the law was not in all cases carried out.

### Germany.

In Germany, an advisory board of health for the empire was appointed last summer, with Dr. Struck as chief medical officer. Their first work was to undertake to revise the sanitary statutes, especially with relation to vital statistics; and a commission had already reported favorably to the parliament on a law regarding registration of contagious and infectious diseases, as had been suggested by the German Public Health Association in 1875. In Prussia, already, every town of over 5,000 inhabitants must have a *sanitäts-commission*, who have large powers in the police of infectious diseases.

\* Verslag aan den Koning, etc., 1875 (pp. 248 *et seq.*).

† Verslag van den Toestand der Gemeente Rotterdam, 1875 (pp. 105 *et seq.* and Appendix F.).

*United States.*

In the United States, the board of health of Brooklyn began, May 1873, to require physicians to report all cases of contagious diseases, as the sanitary code provided, including especially cholera, yellow fever, small-pox, scarlet fever, cerebro-spinal meningitis, typhus fever, typhoid fever, diphtheria, and "any other disease publicly declared by the board of health dangerous to public health." In their last report they say (page 11), "the report of transmissible diseases by physicians has been insisted on and enforced by the board," and (page 12) "whenever it is found that there has been a failure to report, the matter is investigated, and, if not properly explained, is referred to the attorney of the board for prosecution."

The number of cases reported from May, 1873, to January, 1875, was 2,007; during 1874, 4,637; and Dr. Hutchison, the health commissioner, says that under this ordinance the mortality for 1874 was 3.56 per cent. less than for previous years. "The decrease in the mortality was principally of the diseases termed 'infectious,' and with the causes of which it is the duty of sanitary authorities to contend."

Many of the regulations of the board show great care; for instance, "funerals after deaths from small-pox must be conducted without delay, and these also are superintended by an officer of the board."

The total number of actions commenced by the attorney of the board, on all cases, from September, 1873, to January, 1875, was 1,288.

All physicians possessing diplomas from medical schools are registered by the board, and all deaths not certified by them are investigated by the proper officers.

In Pittsburgh, similar work was done in 1875, and the health officer, Dr. Crosby Gray, reports that "the law is not as effective as it should be, as it fails to mention specifically some of the diseases which are regarded as infectious, and a few of our physicians are inclined to take advantage of the defect. However, a majority do comply, and all, I believe, report small-pox."

In Oakland, California, "Dr. C. S. Kittredge was elected



registrar, to collect statistics to enable the health department to ascertain, as nearly as possible, the exact number of cases of sickness for each death occurring during any given period, properly classified. The value of such statistics, when accurately collected, and sufficiently large, is well recognized. Unfortunately, after some 1,200 cases had been collected, the returns, even after repeated appeals for continuance were made, ceased almost entirely to be made, so that there was no possibility of the continuance of this 'labor of love.' \* \*

During the year 1875, Dr. F. W. Draper ably carried out, under the authority of the Massachusetts State Board of Health, a plan of reporting prevalent diseases suggested by him. As nearly as can now be said, about one hundred and ten physicians, a little more than one-half the number who agreed to coöperate, sent in their reports each week from about ninety of the three hundred and forty-one cities and towns in the State. Unfortunately, too, for comparison, the physicians not reporting were not the same from week to week.

According to the last census there are 2,345 male physicians and 91 female physicians in the State, with a population of 1,651,912; and the Board therefore received one weekly report to represent 15,000 people, and from less than one physician in twenty. It was hoped that some method might be reached whereby a sufficient number of returns might be got each week to allow the generalizations from them to be based upon more complete and fuller knowledge; but, even allowing one return from an average of 3,000 people, the expense would be very much greater than the present appropriation of the Board would justify. There was the fact, too, that the information got would be general opinions and not positive facts, and, although they would have some local value, any trustworthy generalizations from them would be attended with such difficulty and must be so limited as to make their value somewhat questionable.

The state board of health of Michigan have modified and are testing this experiment still further; but for the present, the Massachusetts Board are publishing, each week, in the "Boston Daily Journal," the death-rates, etc., from cities and

\* Report of the Board of Health of Oakland, 1876, p. 5.

towns representing about one-half the population of the State, of which a copy is given :—

“MORTALITY IN MASSACHUSETTS.

“Deaths reported in Seventeen Cities and Towns for the Week ending November 4, 1876.

| CITIES.                | Estimated Population. | No. of Deaths in each. | Annual Death-rate per 1,000, during week. | Death-rate from principal Zymotic diseases. |
|------------------------|-----------------------|------------------------|---|---|
| Boston, . . . . .      | 352,000               | 131                    | 19.64                                     | 3.84  |
| Worcester, . . . . .   | 51,300                | 22                     | 22.30                                     | 10.14                                       |
| Lowell, . . . . .      | 51,700                | 33                     | 33.19                                     | 16.09                                       |
| Chelsea, . . . . .     | 21,300                | 9                      | 21.97                                     | 4.88  |
| Cambridge, . . . . .   | 50,000                | 7                      | 7.28                                      | 1.04  |
| Salem, . . . . .       | 26,500                | 13                     | 25.51                                     | 9.81  |
| Lawrence, . . . . .    | 36,000                | 10                     | 14.44                                     | 4.33  |
| Springfield, . . . . . | 31,400                | 9                      | 14.90                                     | 8.27  |
| Lynn, . . . . .        | 34,000                | 14                     | 21.41                                     | 6.11  |
| Gloucester, . . . . .  | 17,000                | 7                      | 21.41                                     | 15.29                                       |
| Fitchburg, . . . . .   | 12,600                | 4                      | 16.51                                     | 12.38                                       |
| Taunton, . . . . .     | 20,700                | 4                      | 10.05                                     | 2.51  |
| Newburyport, . . . . . | 13,400                | 6                      | 23.28                                     | 7.43  |
| Fall River, . . . . .  | 47,200                | 15                     | 16.53                                     | 4.41  |
| Haverhill, . . . . .   | 15,000                | 3                      | 10.04                                     | —   |
| Holyoke, . . . . .     | 17,900                | 6                      | 18.03                                     | 6.01  |
| Pittsfield, . . . . .  | 12,500                | 5                      | 20.80                                     | 4.16  |
| Total, . . . . .       | 809,900               | 298                    | 19.13                                     | 5.78  |

“Deaths from prevalent diseases in the seventeen cities and towns :—

|  |    |
|--|----|
| Diphtheria and croup, thirteen cities and towns, . . . . . | 56 |
| Consumption, twelve cities and towns, . . . . .            | 55 |
| Pneumonia, seven cities and towns, . . . . .               | 17 |
| Typhoid fever, seven cities and towns, . . . . .           | 11 |
| Scarlet fever, three cities and towns, . . . . .           | 6  |

“The mortality from consumption and pneumonia remains very nearly as for the week previous. Diphtheria and croup and scarlet fever have slightly increased. Typhoid fever and the diarrhoeal diseases have decreased. No deaths are reported from small-pox; but there is one case in Holyoke (non-fatal).

“CHAS. F. FOLSOM, M. D.

“Secretary of the State Board of Health.”

This is not, by any means, as satisfactory as the Board would desire; for it fails to include all the deaths in all the

cities reporting, allows many local and non-fatal epidemics to escape being reported, and undoubtedly in some of the cities gives a certain number of erroneous causes of death ; but it is the least incomplete practical method at present, improves from year to year, and, at least, cannot seriously mislead.

That there should be something more than this is evidently desirable ; and it is to be hoped that the means of informing the community promptly, with regard to the appearance of contagious diseases, may be one of the near possibilities.







